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Many common forms of school acceleration for mentally advanced children and youth are investigated; the findings reported are favorable with respect to both short and long range effects.

D.A. Worcester summarized the advantages of such programs as follows: 1) early entrance has the advantage over any other form of acceleration in that it saves a year of the pupil's school life; 2) the child will be placed with his mental and social equals and will be less likely to develop habits of dawdling and laziness; 3) the problem of skipping material in the curriculum is obviated; 4) teachers can become more aware of the particular needs of bright children by recognizing them at the beginning of their school careers.

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THE EFFECTIVENESS AND FEASIBILITY OF EARLY ADMISSION TO SCHOOL FOR MENTALLY ADVANCED CHILDREN

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This paper was prepared for presentation at the July 4, 1962 meeting of the National Education Association at Denver, Colorado. It contains information on Project D-010, supported by a three-year grant from the Cooperative Research Branch, United States Office of Education. The contributions and cooperation of the Warren Public Schools, Warren, Pennsylvania, and the Pennsylvania Department of Public Instruction are gratefully acknowledged.

Information included covers part of the first year of the project from November 1, 1961 to June 30, 1962. Persons desiring to receive reports on the project as it develops should write to the project director at the address given above.

THE EFFECTIVENESS AND FEASIBILITY OF EARLY ADMISSION TO SCHOOL FOR MENTALLY ADVANCED CHILDREN

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1. Problem: Some children are ready for school before others. Research has supported that statement for many years. Yet, almost all school systems in this country hold to a standard age for kindergarten and first grade admission. In many states the arbitrary age is written into the legal and regulatory codes.

Early admission to school, either in kindergarten or first grade, is a special case of acceleration. In turn, acceleration at admission is a special case of variable age admission or flexible age admission. The principle of variable age admission is supported by evidence on individual differences in rate of development of learning capacity and by evidence of the structural rigidity of the curriculum of kindergarten and first grade. Where the curriculum is substantially fixed, as it is in kindergarten and the primary grades, and where the children who approach the curriculum are known to vary markedly in their capacity to learn the content of the curriculum, it is only reasonable that the children should be assessed individually and admitted when they have the capacity to do the work. In this paper attention is being given only to those children who are manifestly ready to make full use of the school curriculum substantially before the usual time they are allowed to do so.

Despite repeated research reports on the overwhelmingly favorable consequences of early admission to school for children of gifted and superior intellectual levels, the practice is neither widely nor frequently used (Anderson, 1961). Although highly recommended (Worcester, 1956) as the most favorable of all forms of acceleration, early admission to school seems neither generally well known nor well understood among practicing educators. Therefore, a field-demonstration of early admission was initiated to assure that the tested processes and the favorable results of early admission would be called to the attention of educational leaders. A widely publicized and carefully controlled demonstration should bring the highly significant research findings on early admission into much fuller use. Conditions seem to warrant the hope that early admission of highly intelligent children might become standard practice in the school districts of the nation.

The demonstration is taking place in Warren, Pennsylvania. Warren, a city of 15,000 population, is in northwestern Pennsylvania, 145 miles from Pittsburgh and 45 miles from Erie. Socio-economically, Warren has a broad cross-section of levels, with a tendency to be a little above average. A well established community and a county seat, it is the site of diversified industries including oil, steel fabrication and electrical equipment and clothing manufacture. Kindergartens have long been part of the school system, and the scheduled enrollment of beginners for 1962 is already 267, with good probability for further increase. There is a close working relationship with the University.

The superintendent, assistant superintendent, and other members of the professional staff of the Warren Public Schools have unanimously endorsed the demonstration, and the Board of Education has unanimously voted to participate. As a demonstration location, Warren is signally appropriate to represent the communities across the nation which should be given leadership and impetus toward the practice of early admission to school for mentally advanced children.

2. Related Research: All common forms of school acceleration for mentally advanced children and youth have been investigated intensively, and favorable findings have been characteristic with respect to both short and long range effects. Documentation is found from reports of Terman (1947) on the matter to such recent summaries as those of Norris (1958) and Fliegler and Bish (1959).

Acceleration through early admission to school finds support in the studies described by Hobson (1948), Smith (1951), Monderer (1953), Birch (1954), Kazienko (1954), Mueller (1955), and Cutts and Moseley (1957).

Hobson's follow-up is at once the most comprehensive and the most instructive. Bright children as young as three years and eight months were admitted to kindergarten on the basis of psychologists' recommendations in the Brookline, Massachusetts, schools. The study began in 1932, and Hobson reported in 1948 and in 1956, describing the status of the 550 underage children graduating from high school between 1946 and 1955. These children, while continuing to improve in academic standing all through school and while taking part in significantly more high school extracurricular activities, were no different from their classmates in the athletic, social and elective positions they achieved. Significantly more of the early entrants were admitted to college.

Several studies were reported from Nebraska, where Worcester's (1956) students conducted a number of related investigations between 1951 and 1955. Smith (1951), in the Lincoln, Nebraska schools, compared the records of 175 early kindergarten entrants when they were in grades one to five with the records of children admitted at the usual age. The younger ones received equal or higher marks as well as generally being equal or higher on ratings of social and emotional adjustment. In the Fairbury, Nebraska schools Monderer (1953) followed early admitted children through kindergarten and the first three grades for some and for four grades for others. Close physical measures were made, as well as mental and social evaluations. Those admitted by test proved as far advanced as the others in their classes mentally, socially and physically. Kazienko (1954) assessed the relative importance of mental age, chronological age and intelligence quotient with respect to determination of fourth grade achievement. He found mental age to be significantly more influential than the other two separately or in combination. Mueller (1955) investigated the question of whether younger bright pupils, even though able to do well in school upon early admission, might not do even much better if they entered school when they were older. He was able to compare groups

of children who had received differential treatment in Grand Island, Hastings, and a number of rural communities in Nebraska. Teachers rated 4,275 children on achievement, health, coordination, acceptance by other children, leadership, attitude toward school and emotional adjustment. A small number of the children had been tested and approved for early admission and for various reasons had not started early. No trend appeared which would suggest that waiting had benefited them, and the results from the over-all study were in strong support of the generalization that it is to the advantage of children to enter school at younger ages if they are mentally ready.

In summarizing the Nebraska studies, Worcester (1956) says:

> "(The children)...who were admitted to kindergarten on the basis of individual mental tests were, on the average, approximately eight months younger than those admitted regularly. There were no statistical differences in physical development. In academic work, the younger did as well or better than their older classmates. Judged by their peers or by teachers' ratings, they are socially and emotionally as well or better adjusted. They have as good or better coordination. They are accepted by their peers. They like school. They do as well or better than those of the same age who were a year later in getting started in school. Indeed, no negative effects have been discerned. As compared with those who took the test but did not pass it, the younger ones had gained a year of school life without loss in social adjustment."

An analysis of the school adjustment of 43 mentally advanced children admitted early to the first grade in the Pittsburgh, Pennsylvania public schools was reported by Birch (1954). The follow-up after one to three years indicated that in the overwhelming majority of instances the children were making satisfactory or better adjustment in the academic, social, emotional and physical areas. In addition there was strong evidence that there were very few difficulties with parents whose children were not admitted because the parents had been fully informed about the matter under consideration and because the psychologists discussed the implications of the test results with each child's parents.

Cutts and Moseley(1957) describe an experiment in early admission to first grade for mentally advanced children begun in New Haven, Connecticut, in 1922. In this instance, the New Haven public schools were in the process of raising the age of admission to first grade for children from five years to five years and eight months as of the first of September. In October of 1922 eight children who were below the new age requirement were recommended for admission by the school psychologist. All were assigned to first grade, completed the work satisfactorily, and moved on to higher grades with increasing success. The plan grew rapidly. Parents proved cooperative, even when their children were not among those admitted early. Follow-up studies through the high school years showed favorable results. This early study indicates that an increase in the age of admission to school for children in general should be accompanied by special provisions for that small but important group of mentally advanced children who are best served by earlier admission.

Miller (1957) presented her own data and reviewed the reports of studies by Baer (1958), Brouilette and Miller (1950), Godfrey, et al. (1954), Hamalainen (1952), Hobson (1948), King (1955), Miller (1949), the NEA Research Division (1953-54), Pauly (1951), and Terman (1960). She found that the studies:

> "point to the conclusion that chronological age is not so important in the academic, social, and emotional adjustment of the child as many people think. The under-age child may do very well in school. Our data indicate that, under the procedures outlined, children young for their grade can be identified and have a good chance for success, not only academically, but socially as well, and that their superiority becomes even clearer as they progress through the grades."

All research available unquestionably concluded that early admission to school combines the favorable features of acceleration and minimizes the undesirable features. Worcester (1956) summarizes the potential advantages of early admission, as supported by research, as follows:

> "1. Early entrance has the advantage of any other form of acceleration in that it saves a year of the pupil's life. If there be no further acceleration, the child has the regular number of years of education with all the possibilities of enrichment and still can enter college and, after that, post-college training at an earlier age. For very many of these bright children, the extra year will be spent in advanced education in order to prepare for the exceedingly complex tasks of the professions, technology, business and government.
>
> 2. The child will be placed from the beginning with those more nearly his mental and social equal and will, therefore, be less likely to develop habits of dawdling and laziness.
>
> 3. His education will be directed. In some homes, to be sure, the mentally ready child who has to 'sit and wait' will have the advantage of enlightened home training. For many, it will be haphazard.
>
> 4. The problem of skipping material in the curriculum is obviated.
>
> 5. Teachers are made more aware of the particular needs of bright children by recognizing them at the beginning of their school careers.
>
> 6. The school system as a whole becomes sensitive to the problem of the gifted."

It is this research which is being put to the test by a field-demonstration. There are no available studies whose findings do not encourage the practices for which this demonstration is being conducted.

The project was officially initiated in the late fall of 1961. The official beginning was preceded, however, by months of preparation. Several school districts were considered as possible sites. When the focus rested on Warren, Pennsylvania, as the most likely spot, interviews with school officials, discussions with the members of the Board of Education, and deeper analysis of the population all were necessary. While the preparatory activities were not covered by the contract with the Cooperative Research Branch, and probably could not be, such prior understandings and arrangements for facilities are much more an integral part of a demonstration than they might be of an experimental research project. For the latter, of course, the stage must be set. But for a demonstration, the setting of the stage itself may furnish data bearing directly on the evaluation of the demonstration project. This point will become clearer in the discussion of evaluation procedures, which will come later.

Every effort has been made to conduct the demonstration within the already existing policies and practices of the Warren school system. The psychologists who examine the children are men who had been in the employ of the school district on a part-time basis. The census data on families is an extension of work already done by the home and school visitor. The selection of additional group tests for kindergarten and first grade was made in the existing framework of the district's committee on the testing program. This approach seems essential if the demonstration is to achieve its goals. When external support is concluded, it should be possible for the demonstrating school district to incorporate the project into its normal on-going activities. Indeed, it should seem only natural to do so.

The work of the project is now under way. Assuming a school population of approximately 300 children admitted annually to kindergarten, and assuming that children must be four years and nine months of age by September 1 for admission to kindergarten under ordinary circumstances, psychological examinations are being made as follows:

During the school year 1961-62, psychologists are examining all the children in the community who will be from three years and nine months to four years and eight months of age, inclusive, by September 1, 1962. These are the children whose birth dates would include the range December 1, 1957 to November 30, 1958. The examining began in January, 1962. The children range from about three to about four years of age at the time of examination.

In some instances among these children the psychologists are recommending admission to kindergarten for the fall of 1962. The psychologists use multiple criteria, as recommended by Birch's (1954) study, and as further suggested from the findings of Davis, Lesser, French and others (1960). The major bench-marks are:

a. Individual intelligence quotients approximately 130 or higher, using standard score I.Q.'s from the Pinneau Revised I.Q. Tables (Terman and Merrill, 1960),

b. Social maturity approximately one year or more above standard, based on the Vineland Social Maturity Scale,

c. Sound and well-developed personality, as judged by the examining psychologist from observations of the child's parents (brief rating scales have been devised for use in the project in this connection), and

d. Physical characteristics not likely to limit the child. A height and weight measurement is being made, and compared with standard tables for such measurements. A statement regarding the child's general health is obtained from the parent, and where there is any indication of physical disability, the family or school physician can be consulted. The school physician is available for consultation.

Parents are informed about the psychologist's recommendations, in keeping with school policies, and with full interpretation. When recommendations are positive, parents are asked if they wish early admission. Emphasis is given to the idea that the project is one of demonstration, firmly grounded on research. Parents are advised that the children will attend their own schools with local children, and that no unusual demands will be made on the youngsters.

Teachers have been fully advised of the project, as has the P.T.A. and other community agencies. The principal demonstrator and the associate demonstrator work closely with the school system to maintain contact, to interpret, and to collect evaluation data and prepare it for dissemination. The project has staff liaison from the Pennsylvania Department of Public Instruction, the Tri-State Area (Pennsylvania, Ohio, and West Virginia) School Study Council, as well as the University of Pittsburgh.

Essentially the same procedure as outlined above will be followed in the school year 1962-63, with such modifications as experience indicates are required. The demonstration would be followed through the school year 1963-64, concluding in 1964. If feasible, and if the school officials wish, further cooperative efforts may be arranged to continue the demonstration or to cooperate in other ways.

3. Evaluation: A field- demonstration of this type presents challenging evaluation problems. The data and techniques significant for experimental research evaluation may not be readily adapted for field demonstrations. All evaluation procedures should, for example, have the full approval of responsible school officials, and should be planned with their cooperation.

Previous studies have shown clearly that early admission to school can be expected to have generally salutory effects on the children and their educational development, so it is quite unnecessary to research that matter with rigor. What is needed is to assess the effects of the application of a systematic policy and practice encouraging early admission in a school system. We have begun to collect and analyse a variety of data to demonstrate the bases upon which early entrance can become fully acceptable to and widely utilized by educational practitioners and parents.

It is much too early in this demonstration to reach conclusions, even tentative ones. What follows should be considered statements of impressions to date. They are not to be taken as conclusions, but rather as observations which may or may not be substantiated.

a. A major factor possibly explaining the failure to use what is known about the beneficial effects of early admission to school may be sheer lack of information. Perhaps lack of information of the research of Hobson, and others, but perhaps a lack of information which runs more deeply--lack of information about the basic concepts of learning capacity and its variability in humans. Laymen, otherwise well informed, seem to know little about learning as a phenomenon or about individual differences in intelligence. And there may be reason to suspect the same limited knowledge in educators at all levels in the public schools.

b. The functions of a psychologist and the potency of his individual instruments for prediction seem little known. Regarding judging when a child is ready to start to school, lay persons and professional educators alike often seem to display much more confidence in a kindergarten teacher's professional opinion than that of a psychologist, however buttressed with objective data.

If these observations, and others like them, prove correct, the role of the demonstration becomes more and more important. It may be at once the most telling and the most expeditious way to move research into practice.

Experiences to date tend to be convincing on the need for the involvement of the teachers in decision making. It is necessary to have the kindergarten teacher assist in making the decision about early admission for each child (1) to assure that the teacher knows fully what is being done, (2) to assure that the kindergarten teacher can feel comfortable about speaking supportively of the idea of early admission to parents, and (3) to assure that the kindergarten teacher will be fully acceptant of the child admitted early.

Some evidence we have suggests that rapid and virtually complete about-faces in attitude toward early admission can be brought about in teachers and other school staff members by involving them fully in reviewing the relevant information on the children and in making the decisions about early admission.

Another interesting side-light bears on the work of the psychologists. Typically, a school or clinical psychologist sees children who have problems or who are making trouble. The usual role of the psychologist is to react in an analytical and diagnostic and, possibly, therapeutic way to a complaint. In this case, our psychologists had to violently re-orient themselves. Most of the children they saw were normal and healthy, and the psychologists often didn't know what to say about them to parents or to teachers!

Our study of the early admission process is taking us into close examination of the roles of various other professional persons in education: the teacher, the superintendent, the director of elementary education, the school physician, the school social worker, the principal and the secretary. Their roles, in relation to each other, the community, and the parent seem of paramount importance.

One other area of evaluation encompasses the comparative growth of the children in academic skills, in social development, in emotional development, and in motor skills, as measured by periodic conventional teacher evaluations and augmented by additional group and individual standardized tests, as determined in cooperation with school officials.

Another highly relevant area of evaluation consists of measures of the impact of the practice of early admission on the school system in terms of such factors as additional costs for instructional and ancillary services, changes in work loads of teachers and supervisors, participation of parents, changes in attitudes toward early admission on the part of educators, related professional workers, parents, and the total community, and modifications in the policies and practices of the school system as consequences of the field-demonstration.

Some data already collected in the latter area suggests that significant increases are required in the amount of time spent interpreting the school's admission policies and practices both to the general public and to the teachers themselves.

The findings of the demonstration will be distributed and disseminated, of course. It is equally important, however, that the fact that the demonstration is going on be widely publicized. A high degree of visibility for the project while it is in operation is a special characteristic of signal importance for a demonstration. Among the ways planned for acquainting the profession and the public with the project are these:

(a) A comprehensive report written for widespread utilization.

(b) Pennsylvania State Department of Public Instruction and Tri-State Area School Study Council bulletins and newsletters, as well as general news releases and articles in the professional journals usually read by practicing educators. This has already begun.

(c) Preparation of recorded television presentation and slides and filmstrips of salient features of the program for both lay and professional audiences. One recorded radio presentation has been prepared.

(d) Utilization of such professional conferences as those of the NEA, the APA, the AASA and such lay conferences as the National Congress of Parents and Teachers to present information on the demonstration.

(e) Development of special conferences on the practice of early admission, conducted and sponsored by such agencies as the University of Pittsburgh, the Pennsylvania Department of Public Instruction, other state departments of public instruction, the Southern Regional Education Board's Project on the Gifted, and similar groups.

In summary, this project is in that unique group of activities called field-demonstrations. It starts from a position firmly grounded in research, and it translates the research findings into operational terms. In so doing, it applies established investigative techniques, particularly planned data collection and analysis, tight control of processes, systematic observation, and thoughtful reporting of consequences and outcomes.

N. B. While this paper deals only with early admission, it is not the writer's position that it is a sufficient adaptation for the whole school life of mentally advanced children. Early admission to school is, as noted at the outset, a special case of acceleration. Acceleration, along with special grouping and independent study, are broad adjustments in school organization for the education of the gifted. All of these adaptations in school organization should be available to gifted children.

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